

ABSTRACT OF THE DISCLOSURE

A NO<sub>x</sub> reduction method includes treating a first gas containing NO<sub>x</sub>, producing a second gas containing NO<sub>2</sub>, reducing a portion of the NO<sub>2</sub> in the second gas to N<sub>2</sub>, and producing a third gas containing less NO<sub>x</sub> than the first gas, substantially all of the third gas NO<sub>x</sub> being NO. The method also includes treating the third gas, producing a fourth gas containing NO<sub>2</sub>, reducing a portion of the NO<sub>2</sub> in the fourth gas to N<sub>2</sub>, and producing a fifth gas containing less NO<sub>x</sub> than the third gas, substantially all of the fifth gas NO<sub>x</sub> being NO. Treating the first and/or third gas can include treatment with a plasma. Reducing a portion of the NO<sub>2</sub> in the second and/or fourth gas can include reducing with a catalyst. The method can further include controlling energy consumption of the plasmas independent of each other.